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09/900,132	07/09/2001	Katsuaki Kawamura	Q65289	4309

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EXAMINER

PEREZ, ANGELICA

ART UNIT PAPER NUMBER

2684

DATE MAILED: 06/17/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/900,132

Applicant(s)

KAWAMURA, KATSUAKI

Examiner

Angelica M. Perez

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 01/21/2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-30 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-30 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.  
a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_ 6) ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### *Claim Rejections - 35 USC § 103*

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1, 14, 15, 19 and 27-28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Uriya (Uriya, Susumu; US Patent No.: 6,574,489) in view of Tsutsumi (Tsutsumi, Sei; JP Patent No.: 5,9010091A), and further in view of Brisebois (Brisebois et al.; EP 0,866,592 A2).

Regarding claim 1, Uriya teaches of an information communication apparatus comprising: an information communication unit for transmitting and receiving information through communication (column 2, lines 23-25); a vibration notification unit for vibrating to notify the reception of the information (column 2, lines 29-35 and 62-65).

Uriya does not specifically teach of a vibration control unit for generating from an audio signal a driving signal synchronously with the audio signal, the vibration control unit for causing the vibration notification unit to vibrate according to the driving signal.

In related art concerning a headphone, Tsutsumi teaches of a vibration control unit for generating from an audio signal a driving signal synchronously with the audio signal (Abstract, where the vibrator is activated by the sound).

It would have been obvious to a one of ordinary skill in the art at the time the invention was made to combine Uriya's information communication unit with Tsutsumi's

vibration control unit activated by an audio driver in order to provide a “lively feeling to the headphone through the tactual sense” as taught by Tsutsumi.

Uriya and Tsutsumi do teach where the vibration control unit for causing the vibration notification unit to vibrate according to the driving signal (columns 3 and 4, lines 40-42 and 1-3, respectively; where the tactile patterns are synchronized with the audio signals).

However, in related art concerning a personal communication device and call processing status signaling method, Brisebois further teaches where the vibration control unit for causing the vibration notification unit to vibrate according to the driving signal (column 3, lines lines 16-25 and 40-46; where the notification unit vibrates according to the driving signal).

It would have been obvious to a one of ordinary skill in the art at the time the invention was made to combine Uriya’s and Tsutsumi’s personal communication device with Brisebois’s vibration according to the driving signal in order to create a pattern of simulation that will inform rather than alarm the user, as taught by Brisebois.

Regarding claim 14, Uriya in view of Tsutsumi, and further in view of Brisebois teaches all the limitations according to claim 1. In addition, Uriya teaches where the information communication apparatus further comprises a speaker for outputting the audio signal (figure 2, item 141; column 2, lines 52-55).

Regarding claim 15, Uriya teaches of a communication apparatus, comprising: a receiver circuit that receives communication information (figure 7, items 21a and 22a; column 2, lines 23-25); a vibrator that vibrates to notify reception of the communication

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information (column 2, lines 29-35 and 62-65); Brisebois teaches where the control circuit instructs the vibrator to vibrate according to the driving signal (column 3, lines 16-25 and 40-46; where the notification unit vibrates according to the driving signal); Tsutsumi teaches of a control circuit that generates a driving signal based on an audio signal (column 6, lines 15-25; where the vibrator is activated by the audio driver circuit 280; where it is synchronized).

Regarding claim 19, Uriya in view of Tsutsumi, and further in view of Brisebois teaches all the limitations according to claim 15. In addition, Uriya teaches where the information communication apparatus further comprising: a speaker, where the audio signal is output via the speaker the (figure 2, item 141; column 2, lines 52-55).

Regarding claim 27, Uriya in view of Tsutsumi, and further in view of Brisebois teaches all the limitations according to claim 1. Tsutsumi further teaches where the vibration control unit modifies the audio signal to produce a modified audio signal, and where vibration control unit outputs the modified audio signal as the driving signal (abstract).

Regarding claim 28, Uriya in view of Tsutsumi, and further in view of Brisebois teaches all the limitations according to claim 27. Tsutsumi further teaches where the audio signal comprises a music signal, and where the vibration control unit modifies the music signal to produce a modified music signal, and where vibration control unit outputs the modified music signal as the driving signal (abstract; where sound can be music sound).

3. Claims 29-30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Uriya in view of Tsutsumi.

Regarding claim 29, Uriya teaches of a communication apparatus (figure 7), comprising: a receiver circuit that receives communication information (figure 7, items 21a and 21b); a vibrator that vibrates to notify reception of the communication information (figure 7, item 43); and a control circuit (figure 7, item 60).

Uriya does not teach where the control circuit modifies an audio signal to produce a modified audio signal and that outputs the modified audio signal as a driving signal, where the control circuit instructs the vibrator to vibrate according to the driving signal.

In related art concerning a headphone, Tsutsumi teaches where an audio signal to produce a modified audio signal and that outputs the modified audio signal as a driving signal, where the control circuit instructs the vibrator to vibrate according to the driving signal (Abstract, where the sound is modified in order to vibrate).

It would have been obvious to a one of ordinary skill in the art at the time the invention was made to combine Uriya's information communication unit with Tsutsumi's modified audio signal in order to provide a "lively feeling to the headphone through the tactual sense" as taught by Tsutsumi.

Regarding claim 30, Uriya in view of Tsutsumi teaches all the limitations according to claim 29.

Tsutsumi further teaches where the audio signal comprises a music signal, and where the control circuit modifies the music signal to produce a modified music signal,

and where control circuit outputs the modified music signal as the driving signal (abstract; where sound can be music sound).

1. Claims 2, 10-13, 16-17, 20 and 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Uriya in view of Tsutsumi, and further in view of Brisebois as applied to claims 1 above, and further in view of Yamashita (Yamashita, Tomohisa; Patent No.: 6,070,053).

Regarding claim 2, Uriya in view of Tsutsumi in further view of Brisebois teaches all the limitations according to claim 1.

Uriya in view of Tsutsumi in further view of Brisebois does not teach of a music reproduction unit for outputting music as the audio signal.

In further art related to ringing sound or melody calling notification in a radio communication system, Yamashita teaches of a music reproduction unit for outputting music as the audio signal (figure 1, item 34; columns 5 and 6, lines 7-21 and 38-40, respectively; and column 9, lines 11-17).

It would have been obvious to a one of ordinary skill in the art at the time the invention was made to combine Uriya's, Tsutsumi's and Brisebois combined information communication apparatus with Yamashita music reproduction unit for outputting music as the audio signal in order to provide notification of music data received in the message, as taught by Yamashita.

Regarding claim 10, Uriya in view of Tsutsumi in further view of Brisebois and further in view of Yamashita teaches all the limitations according to claim 2. Yamashita further teaches where the information received by the information communication unit

includes voice communication data from an external terminal (column 9, lines 11-17) and music data delivered from an external source (column 5, lines 51-56).

Regarding claim 11, Uriya in view of Tsutsumi in further view of Brisebois and further in view of Yamashita teaches all the limitations according to claim 10. Yamashita further teaches where the music reproduction unit outputs the music as the audio signal based on the music data delivered from the external source (column 4, lines 41-46 and column 7, lines 17-34; where the base station is an external source).

Regarding claim 12, Uriya in view of Tsutsumi in further view of Brisebois and further in view of Yamashita teaches all the limitations according to claim 10. Yamashita further teaches where the information communication apparatus further comprises a memory for storing the music data (column 4, lines 17-20).

Regarding claim 13, Uriya in view of Tsutsumi in further view of Brisebois and further in view of Yamashita teaches all the limitations according to claim 12. Yamashita further teaches where the music reproduction unit generates and outputs the music as the audio signal based on the music data in the memory (column 2, lines 51-54).

Regarding claim 16, Uriya in view of Tsutsumi in further view of Brisebois teaches all the limitations according to claim 15. Yamashita further teaches where the audio signal comprises music (column 2, line 48-50).

Regarding claim 17, Uriya in view of Tsutsumi in further view of Brisebois and further in view of Yamashita teaches all the limitations according to claim 16. Yamashita further teaches of the communication apparatus further comprising a memory that stores the music (column 4, lines 17-20).



Regarding claim 20, Uriya in view of Tsutsumi in further view of Brisebois and further in view of Yamashita teaches all the limitations according to claim 16. In addition, Uriya teaches where the communication apparatus further comprises a speaker, where the control circuit causes the music to be output via the speaker (figure 2, item 141; column 2, lines 52-55).

Regarding claim 26, Uriya in view of Tsutsumi in further view of Brisebois and further in view of Yamashita teaches all the limitations according to claim 16. Yamashita further teaches where the music is received over the air from an external source (column 4, lines 41-46 and column 7, lines 17-34; where the base station is an external source).

29. a communication apparatus, comprising: a receiver circuit that receives communication information; a vibrator that vibrates to notify reception of the communication information; and a control circuit that modifies an audio signal to produce a modified audio signal and that outputs the modified audio signal as a driving signal, wherein the control circuit instructs the vibrator to vibrate according to the driving signal.

2. Claims 3, 6-8, 18, and 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Uriya in view of Tsutsumi in further view of Brisebois and further in view of Yamashita as applied to claims 2 and 16 above, and further in view of Saiki (Saiki et al.; US Patent No.: 6,259, 935).

Regarding claim 3, Uriya in view of Tsutsumi in further view of Brisebois and further in view of Yamashita teaches all the limitations according to claim 2.

Uriya in view of Tsutsumi in further view of Brisebois and further in view of Yamashita does not specifically teach where the vibration control unit generates the driving signal based on low frequency components of the audio signal.

In further art related to converting a signal into vibration or vibration and sound, Saiki teaches where the vibration control unit generates the driving signal based on low frequency components of the audio signal (figure 4, item fo1 and column 6, lines 24-27).

It would have been obvious to a one of ordinary skill in the art at the time the invention was made to combine Uriya's, Tsutsumi's, Brisebois's and Yamashita's, vibration communication unit with Saiki's generation of the driving signal based on the low frequency components of the audio signal with the purpose of generating a vibration as a preferred indicator, as taught by Saiki.

Regarding claim 6, Uriya in view of Tsutsumi, in further in view of Brisebois, in further in view of Yamashita and further in view of Saiki teaches all the limitations according to claim 3. Furthermore, Saiki teaches where the vibration notification unit comprises a vibration unit for vibrating with a self-resonance frequency; and where the vibration control unit comprises a low pass filter having a passing frequency band for passing the low frequency components including the self-resonance frequency; and of the vibration unit (column 6, lines 24-37).

Regarding claim 7, Uriya in view of Tsutsumi, in further in view of Brisebois, in further in view of Yamashita and further in view of Saiki teaches all the limitations

according to claim 3. Also, Saiki teaches and where the vibration control unit comprises a low pass filter having a passing frequency band for passing the low frequency components of the audio signal (figure 7, item 19; columns 11-12, lines 67 and 1-14, respectively).

Regarding claim 8, Uriya in view of Tsutsumi, in further in view of Brisebois, in further in view of Yamashita and further in view of Saiki teaches all the limitations according to claim 7. Also, Saiki teaches where the vibration control unit further comprises an amplifier for amplifying the low frequency components passing through the low pass filter (figure 5, item 14; column 8, lines 54-60).

Regarding claim 18, Uriya in view of Tsutsumi, in further in view of Brisebois, in further in view of Yamashita teaches all the limitations of claim 16. Saiki further teaches where the control circuit instructs the vibrator to vibrate based on low frequency components of the music (figure 4, item fo1 and column 6, lines 24-27).

Regarding claim 25, Uriya in view of Tsutsumi, in further in view of Brisebois, in further in view of Yamashita and further in view of Saiki teaches all the limitations according to claim 18. Also, Saiki teaches where the vibrator vibrates with a resonance frequency, where the control circuit comprises a low pass filter that passes the resonance frequency, and where the filter filters the music (figure 7, item 19; columns 11-12, lines 67 and 1-14, respectively).

3. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Uriya in view of Tsutsumi, in further in view of Brisebois, further in view of Yamashita, further in

view of Saiki and further in further view of Osuge (Osuge, Michihiro; US Patent NO.: Kanamori et al.; US Patent No.: 6,1195,571).

Regarding claim 9, Uriya in view of Tsutsumi further in view of Yamashita and in further view of Saiki teaches all the limitations according to claim 8.

Uriya in view Tsutsumi, in further in view of Brisebois, in further in view of Yamashita and in further view of Saiki does not teach where the vibration control unit further comprises a rectifier for rectifying the low frequency components output from the amplifier to generate the driving signal.

In further art regarding automatic switching notification devices, Osuge teaches where the vibration control unit further comprises a rectifier for rectifying the low frequency components output from the amplifier to generate the driving signal (figure 7, item 51 and column 6, lines 12-20).

It would have been obvious to a one of ordinary skill in the art at the time the invention was made to combine Uriya's, Tsutsumi's, Brisebois's, Yamashita's and Saiki's vibration control unit with Osuge's rectifier in order to rectify the low frequency components output from the amplifier to generate the driving signal.

4. Claims 4 and 5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Uriya in view of Tsutsumi, in further in view of Brisebois and further in view of Yamashita as applied to claim 2 above, and further in view of Kanamori (Kanamori et al.; US Patent No.: 6,662,022).

Regarding claim 4, Uriya in view of Tsutsumi, in further in view of Brisebois and further in view of Yamashita teaches all the limitations according to claim 2.

Uriya in view of Tsutsumi, in further in view of Brisebois and further in view of Yamashita does not teach where the music reproduction unit stops music reproduction if the information communication unit receives the information during music reproduction.

In related art concerning a portable telephone set capable of recognizing a call during music replay, Kanamori teaches where the music reproduction unit stops music reproduction if the information communication unit receives the information during music reproduction (column 9, lines 59-64).

It would have been obvious to a one of ordinary skill in the art at the time the invention was made to combine Uriya's in view of Tsutsumi's, in further in view of Brisebois's and further in view of Yamashita's music reproduction unit with Kanamori's teachings where the music reproduction unit stops music reproduction if the information communication unit receives the information during music reproduction; in this manner, the user is able to avoid missing the information, as taught by Kanamori.

Regarding claim 5, Uriya in view of Tsutsumi, in further in view of Brisebois and further in view of Yamashita teaches all the limitations according to claim 2. Kanamori further teaches where the music reproduction restarts when the incoming status detection unit detects that the information communication unit completes receiving the information, if the information is received during music reproduction (columns 9 and 10; lines 65-67 and 1, respectively).

5. Claims 21-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Uriya in view of Tsutsumi, in further in view of Brisebois and further in view of Kanamori.

Regarding claim 21, Uriya in view of Tsutsumi and in further in view of Brisebois teaches all the limitations according to claim 20.

Uriya in view of Tsutsumi and in further in view of Brisebois does not teach where the control circuit causes the music to stop being output via the speaker when the receiver circuit receives the communication information while the music is output via the speaker.

Kanamori further teaches where the control circuit causes the music to stop being output via the speaker when the receiver circuit receives the communication information while the music is output via the speaker (column 2, lines 49-52; e.g., "may not replay the replayed music" corresponding to "stop" and column 9, lines 59-64).

It would have been obvious to a one of ordinary skill in the art at the time the invention was made to combine Uriya's, Tsutsumi's and Brisebois's music reproduction unit with Kanamori's teachings where the music reproduction unit stops music reproduction if the information communication unit receives the information during music reproduction; in this manner, the user is able to avoid missing the information, as taught by Kanamori.

Regarding claim 22, Uriya in view of Tsutsumi, further in view of Brisebois and further in view of Kanamori teaches all the limitations according to claim 21. Kanamori further teaches where the control circuit detects a beginning of receipt of the

communication information and a completion of the receipt of the communication information, where the control circuit causes the music to stop being output via the speaker when the control circuit detects the beginning of the receipt of the communication information (column 2, lines 49-52; e.g., “may not replay the replayed music” corresponding to “stop” and column 9, lines 59-64), and where the control circuit causes the music to be output via the speaker when the control circuit detects the completion of the receipt of the communication information (columns 9 and 10; lines 65-67 and 1, respectively).

Regarding claim 23, Uriya in view of Tsutsumi, further in view of Brisebois and further in view of Kanamori teaches all the limitations according to claim 22. Kanamori further teaches where when the control circuit detects the completion of the receipt of the communication information, the control circuit causes the music to be output via the speaker from a point at which the music stopped being output via the speaker when the communication information began to be received (columns 9 and 10; lines 65-67 and 1, respectively).

6. Claims 24 is rejected under 35 U.S.C. 103(a) as being unpatentable over Uriya in view of Tsutsumi, in further in view of Brisebois and further in view of Saiki.

Regarding claim 24, Uriya in view of Tsutsumi, in further in view of Brisebois teaches all the limitations according to claim 15.

Uriya in view of Tsutsumi, in further in view of Brisebois does not specifically teaches where the vibrator vibrates with a resonance frequency, where the control

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circuit comprises a filter that passes the resonance frequency, and where the filter filters the audio signal.

In further art related to converting a signal into vibration or vibration and sound, Saiki teaches the vibrator vibrates with a resonance frequency, where the control circuit comprises a filter that passes the resonance frequency, and where the filter filters the audio signal (column 6, lines 24-37).

It would have been obvious to a one of ordinary skill in the art at the time the invention was made to combine Uriya's, Tsutsumi's and Brisebois's vibration communication unit with Saiki's vibrator that vibrates with a resonance frequency, where the control circuit comprises a filter the audio signal in order to separate the signals according to the preferred annunciator.



**Conclusion**

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure:

JP Patent No.: 359010091 A; deals with a headphone capable of providing tactual sense of reproduced music.

US Patent No.: 4,813,419; refers to an apparatus having a vibrator that vibrates according to applied sound waves.


US Patent No.: 4,250,637; refers to a tactile aid to speech reception apparatus.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Angelica Perez whose telephone number is 703-305-8724. The examiner can normally be reached on 7:15 a.m. - 3:55 p.m., Monday - Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nay Maung can be reached on <sup>571-272-7882</sup>~~703-308-7745~~. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9314 for regular communications and for After Final communications.

Information regarding Patent Application Information Retrieval (PAIR) system can be found at 866-217-9197 (toll-free)."

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the TC 2600's customer service number is 703-306-0377.



Angelica Perez  
(Examiner)

June 2, 2004



NAY MAUNG  
SUPERVISORY PATENT EXAMINER

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